CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

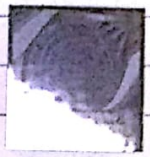
An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/KRIDL/W.No.13/WMM/Gradation/2017-18 27.03.2018

TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements of Asphalting at pipeline attached roads and near Cavery Pump House in Mallasandra Ward No.13, Shettyhalli, Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/219/2017-18 Dated:07.02.2018
Sample ID	:	Wet Mix Macadam
Technical Reference	:	IS 2386 (part-1)1963 (RA-2011)
Date of Testing	:	27.03.2018



Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-13
53	0	0	0	100	100
45	175	175	3.5	96.5	95-100
22.4	1520	1695	33.90	66.10	60-80
11.2	1225	2920	58.40	41.60	40-60
4.75	625	3545	70.90	29.10	25-40
2.36	515	4060	81.20	18.80	15-30
0.600	415	4475	89.50	10.50	8-22
0.075	350	4825	96.50	3.50	0-8

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants Bangalore

Note:

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⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

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Job No.: CTCE/BBMP/KRIDL/W.No.13/WMM/AIV/2017-18 27.03.2018

TEST REPORT ON IMPACT VALUE OF AGGREGATE

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements of Asphalting at pipeline attached roads and near Cavery Pump House in Mallasandra Ward No.13, Shettyhalli, Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/219/2017-18 Dated:07.02.2018
* Sample ID	:	Wet Mix Macadam
Technical Reference	:	IS : 2386(Part -4)-1963 (RA-2011)
Date of Testing	:	27.03.2018

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	388	392	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	90	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	303	302	
4	Aggregate Impact value = percent fines 100* (W2/W1)%	21.91	22.96	22.43

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Wet Mix Macadam is 30%

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Job No.: CTCE/BBMP/KRIDL/W.No.13/WMM/Shape.T/2017-18 27.03.2018

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

*** Customer**	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP Bangalore.
*** Agency**	:	**Technical Manager (West),** KRIDL, Bangalore.
*** Name of Work**	:	Improvements of Asphalting at pipeline attached roads and near Cavery Pump House in Mallasandra Ward No.13, Shettyhalli, Sub Division, BBMP, Bangalore.
*** Reference**	:	BBMP/EE/DD/WO/219/2017-18 Dated:07.02.2018
*** Sample ID**	:	Wet Mix Macadam
Technical Reference	:	IS 2386(Part 1) 1963 (RA 2011)
Date of Testing	:	27.03.2018

Sl.No.	Description	Result
1	Flakiness Index	11.02%
2	Elongation Index	13.62%
3	Combined Flakiness & Elongation Index	24.64%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-03/591e/QB(BM)/2018-19 23.04.2018

TEST REPORT ON DETERMINATION OF BITUMEN CHARACTERISTICS

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements of Asphalting at pipeline attached roads and near Cavery Pump House in Mallasandra Ward No.13, Shettyhalli, Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/219/2017-18 Dated:07.02.2018
* Sample ID	:	Bitumen
Source/ Location	:	Hot Mix Plant, Bangalore.
Sample Received on	:	21.04.2018
Period of Testing	:	23.04.2018

The results of the tests conducted on the bitumen sample are as follows:

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	IS :1203 -1978 (RA-2014)	68	60 to 70
2	Softening point, ^{0}C	IS :1205 -1978 (RA-2014)	46	Min. 45
3	Ductility at 27^{0}C, cm	IS :1208 -1978 (RA-2014)	100 >	Min. 50
4	Flash Point, ^{0}C	IS :1209 -1978 (RA-2014)	295	Min. 220

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Technical Manager

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Job No: CTCE/BBMP/KRIDL/W.No.13/BM/AIV/2018-19 23.04.2018

TEST REPORT ON IMPACT VALUE OF AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements of Asphalting at pipeline attached roads and near Cavery Pump House in Mallasandra Ward No.13, Shettyhalli, Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/219/2017-18 Dated:07.02.2018
* Sample ID	:	Hot Mix Plant, Bangalore
Technical Reference	:	IS : 2386(Part -4)-1963 (RA-2011)
* Type of Mix	:	Bituminous Macadam
Date of Testing	:	23.04.2018

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	379	388	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	81	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	298	303	
4	Aggregate Impact value = percent fines 100* (W2/W1)%	21.37	21.91	**21.64**

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Macadam is 30%

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